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10/562,962	12/30/2005	Thomas Weckerling	GKNG 1274 PCT	4194
27256	7590	08/10/2007	EXAMINER	
Dickinson Wright PLLC 38525 Woodward Avenue Suite 2000 Bloomfield Hills, MI 48304			BINDA, GREGORY JOHN	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/562,962

Applicant(s)

WECKERLING, THOMAS

Examiner

Greg Binda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 36-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 36-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/30/05: 6/5/07.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

*Drawings*

1. The drawings are objected to because:
  - a. Reference character O2 appears at page 25, line 27, but does not appear in the drawings.
  - b. In Fig. 20, the reference numeral 23 should be changed to 29. See page 33, lines 23+.
  - c. The drawings fail to show:
    - i. Claim 1: "a center angle ( $\beta$ ) from the joint center M to the turning point (T1-2), with reference to the central joint plane (E)"
    - ii. Claim 1: "a center angle ( $\beta$ ) . . . greater than  $4^{\circ}$ "
    - iii. Claims 36-40, 43 & 50-65: all limitations therein
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

3. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the preliminary amendment cannot be entered since the directions are incorrect and in order to correct pagination errors. The first page of a specification is numbered as page 1, not page 14.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and **a statement that the substitute specification contains no new matter must also be supplied.** Numbering the paragraphs of the specification of record is not considered a change that must be shown.

4. The disclosure is objected to as failing to comply with 37 CFR 1.77(c) for failing to include section headings.

5. The disclosure is objected to because:
  - a. At page 25, line 15 and page 27, lines 4, 9 & 13, the aperture 25 is identified by the wrong reference numeral.
  - b. Page 27, line 17 mentions an "illustration d". There is no such illustration in the drawings.
  - c. Page 29, line 14 mentions "a second possible embodiment of an inventive outer joint part" and then at line last a second such "second possible embodiment of an inventive outer joint part" is mentioned. It is not possible to determine whether the first "second possible embodiment of an inventive outer joint part" is the same as, or different from the second "second possible embodiment of an inventive outer joint part".
  - d. At page 32, line 20, the first cage windows 923 are identified by the wrong reference numeral.
6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

*Claim Rejections - 35 USC § 112*

7. Claims 1 & 36-69 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

- a. Claims 1, 36 & 37 recite the limitation, "a center angle ( $\beta$ ) from the joint center M to the turning point (T1-2), with reference to the central joint plane (E)". No such angle is taught in the specification where the angle  $\beta$  is defined as the angle between a ray drawn to the ball center and the joint plane E. See page 26, lines 14+.
- b. Claim 1 recites the limitation, "a center angle ( $\beta$ ) . . . greater than  $4^\circ$ ." No such feature is taught in the specification. There is no explanation or suggestion in the specification explaining why such an angle would be necessary.
- c. Claim 36 recites the limitation, "a center angle ( $\beta$ ) . . . greater than  $5^\circ$ " and claim 37 recites the limitation, "a center angle ( $\beta$ ) . . . less than  $12^\circ$ ". Though these limitations are parroted in the summary, there is no explanation or suggestion in the specification explaining why such angles would be necessary.
- d. Claim 39 depends on claim 38, but the equation recited in claim 39 is incompatible with the equation recited in claim 38. In the specification (see pages 27 & 29) the equation recited in claim 38 pertains to the embodiment in Fig. 5 and the equation recited in claim 39 pertains to the "second possible embodiment" in Fig. 7.
- e. Claim 40 depends on claim 38, but the equation recited in claim 40 is incompatible with the equation recited in claim 38. In the specification (see pages 27-30) the equation recited in claim 38 pertains to the embodiment in Fig. 5 and the equation recited in claim 39 pertains to the "second possible embodiment" in Fig. 8.
- f. Claims 41 & 42 recite the limitation, "a counter radius ( $R_1$ )". No such radius is taught in the specification. In the specification at page 28, line 4, the radius  $R_1$  is taught as the radius of the outer joint part.

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g. Each of claims 50-65 recites a range of values for a ratio that is merely parroted in the summary. There is no explanation or suggestion in the specification explaining why one skilled in the art should make any one of these particular ratios, nor is any other reason given for why any of the specific ratio values would be necessary.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1 & 36-69 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1, 36 & 37 recite the limitation, "a center angle ( $\beta$ ) from the joint center M to the turning point ( $T_{1-2}$ ), with reference to the central joint plane (E)". It is not clear if this "angle ( $\beta$ )" is the same as, or different from the angle ( $\beta$ ) described in the specification as the angle between a ray drawn to a ball center and the joint plane E.

b. Claim 38 recites at lines 2 & 3 the limitation, "the turning point ( $T_{1-2}$ ) forms a turning point angle ( $\alpha$ )" and then line 4 recites the limitation, "a perpendicular line on said tangent forms a turning point angle ( $\alpha$ )". It is not clear if the first recited "turning point angle ( $\alpha$ )" is the same as or different from the second "turning point angle ( $\alpha$ )".

c. Claims 39 & 40 recite the limitation, "the turning point angle ( $\alpha$ )". It is not clear which of the previously recited turning point angles ( $\alpha$ ) is "the turning point angle ( $\alpha$ )".

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d. Claims 41 & 42 recite the limitation, "a counter radius ( $R_1$ )". It is not clear if this radius ( $R_1$ ) is the same as or different from the radius  $R_1$  described in the specification as the radius of the outer joint part.

*Claim Rejections - 35 USC § 102*

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 36-40, 46 & 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Krude et al, US 2001/0006910 (Krude). In Figs. 1, 3 & 4, Krude shows a constant velocity joint in the form of a counter track joint comprising:

an outer joint part 12 comprising a first longitudinal axis 18 and an attaching end 13 and an aperture end 14 which are axially opposed relative to one another, and first outer ball tracks 22 and second outer ball tracks 21;

an inner joint part 15 comprising a second longitudinal axis 19 and an attaching mechanism for a shaft pointing to the aperture end of the outer joint part, and first inner ball tracks 24 and second inner ball tracks 23, the first outer ball tracks and the first inner ball tracks



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form first pairs of tracks with one another, and the second outer ball tracks and the second inner ball tracks form second pairs of tracks with one another, the pairs of tracks each accommodate a torque transmitting ball 17;

and a ball cage 16 positioned between the outer joint part and the inner joint part and comprising circumferentially distributed cage windows 33 which each accommodate at least one of the balls;

wherein, when the joint is in the aligned condition, an aperture angle of the first pairs of tracks opens in a central joint plane from the aperture end to the attaching end of the outer joint part; wherein, when the joint is in the aligned condition, an aperture angle of the second pairs of tracks opens in the central joint plane from the attaching end to the aperture end of the outer joint part, and wherein central track lines of the first pairs of tracks each have a turning point (any arbitrary point along the track line that fits the following) wherein, a center angle from the joint center to the turning point, with reference to the central joint plane, is between 5 and 12 degrees.

12. Claims 1 & 36-69 are rejected under 35 U.S.C. 102(e) as being anticipated by Schwarzler et al, US 2006/0281565. Figs. 1-6 show constant velocity joints comprising all the limitations of the claims.

13. Claims 1 & 36-69 are rejected under 35 U.S.C. 102(d) as being barred by applicant's foreign patent, DE 103 37 612.

a. The foreign patent DE 103 37 612 was filed August 16, 2003 which is more than 12 months before the effective filing date of the instant application.

- b. The foreign patent DE 103 37 612 was filed by the same applicant as the instant application.
- c. The foreign patent DE 103 37 612 was granted before the U.S. filing date of the instant application.
- d. The foreign patent DE 103 37 612 discloses the same invention as the instant application. See applicant's own explanation of relevance, the International Search Report PCT/EP2004/012380.

*Conclusion*

- 14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,319,133 and US 2006/02172207 each show a constant velocity joint.
- 15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Greg Binda  
Primary Examiner  
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